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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/791,622

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Henry R. Halperin

9450-19CT

3149

20792

7590

09/13/2007

MYERS BIGEL SIBLEY & SAJOVEC

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RALEIGH, NC 27627

EXAMINER

ROZANSKI, MICHAEL T

ART UNIT

PAPER NUMBER

3768

MAIL DATE

DELIVERY MODE

09/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/791,622

Applicant(s)

HALPERIN ET AL.

Examiner

Michael Rozanski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/27/04, 3/2/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 1-24 have been considered but are moot in view of the new ground(s) of rejection. In addition, objections to drawings and double patenting rejection have been overcome and are now withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 12-15, and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over **Acker** (US 5,833,608) in view of **Rubinsky et al** (US 5,433,717).

Claims 1-6, 12, 14-15, and 20: Acker discloses a magnetic position and orientation determining system capable of performing the steps of:

placing a subject in a main magnetic field 32

introducing into the subject's brain a combination imaging and therapeutic probe, wherein the probe may be overlaid with an MRI image (col 7, lines 29-31; col. 9, lines 44-67);

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acquiring a (plurality of) first magnetic resonance image(s) from the antenna of the combination probe, which may include electrical devices for delivering electrical energy to the surrounding tissue (col. 9, lines 44-67);

acquiring a (plurality of) second magnetic resonance image(s) from a surface coil (col. 8, lines 44-60; col. 11, lines 3-25);

combining the respective first and second magnetic resonance images to produce a composite image (col. 14, lines 6-53);

positioning the combination probe within the brain with guidance from the composite image in the X, Y, Z coordinate system.

Application of the disclosed system is directed to brain therapy (col. 21, lines 8-53). The mapped physiological data superposed on an image of a body part (i.e. the brain) may be mapped (i.e. locate an anatomical target) alone in pictorial form or otherwise (col. 25, lines 7-9). Furthermore, the images are generated in real time (col. 25, lines 7-16) wherein the acquisition time is capable of being at least 10 frames per second (col. 14, lines 6-53).

Acker disclose Helmholtz coils 34, 36, 38 (see figure 1), which are a conventional type of MRI RF coil, but not an RF coil included as part of the probe. In the same field of endeavor, Rubinsky et al teach that it is beneficial to have RF coils such as Helmholtz coils mounted on the surgical probe (col 14, line 50-col 15, line 12). It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate teachings of Rubinsky in order to improve resolution of the RF coil images.

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Claim 13: Acker and Rubinsky et al substantially disclose all features of the current invention as described above, except introducing an MR contrast agent to enhance the images. Rubinsky et al. also teach of a method and apparatus for magnetic resonance imaging-assisted cryosurgery wherein contrast agents may be used for such purposes (col. 5, lines 12-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Rubinsky et al. determining the efficacy of the cryosurgical treatment (col. 4, lines 66-67).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-11 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Acker** and **Rubinsky** in view of **Eggers et al** (US 6,045,532).

Claims 7-11, 16-19, and 21-24: Acker and Rubinsky disclose all features of the current invention as described above, but do not specifically disclose a diagnostic electrode, application of RF ablative current, or filtering the RF signal. In the same field of endeavor, Eggers et al. teach of an MRI-compatible electrosurgical probe used including a plurality of electrodes for ablating intracranial tumors (col 3, lines 27-56), wherein the power source for supplying current to the electrode may have a filter (col

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15, lines 33-53). It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teachings of Eggers et al. to that of Acker in order to improve the efficacy of the medical procedure involving the characterization and treatment of tumors.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rozanski whose telephone number is 571-272-1648. The examiner can normally be reached on Monday - Friday, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eleni Mantis-Mercader can be reached on 571-272-4740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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SPE 3768